Harrison

7903

(12) UK Patent Application (19) GB (11) 2 194 514 (13) A

(43) Application published 9 Mar 1988

(21) Application No 8719843

(22) Date of filing 21 Aug 1987

(30) Priority data
(31) 8621010 (32) 30 Aug 1986 (33) GB

(51) INT CL⁴
B65D 25/14

(52) Domestic classification (Edition J):
B8P K9
U1S 1074 1450 B8P

(56) Documents cited
GB 1592376 GB 1232783 US 4202465
GB 1264811 US 4257530 US 3756495

(58) Field of search
B8P
Selected US specifications from IPC sub-class B65D

(71) Applicant
Waddingtons Cartons Limited

(Incorporated in United Kingdom)

Wakefield Road, Leeds LS10 3TP

(72) Inventor
Peter Harrison

(74) Agent and/or Address for Service
Bailey Walsh & Co.,
5 York Place, Leeds LS1 2SD

(54) Composite packages

(57) A composite container comprises an inner plastics material container 10 and an outer cardboard case 26. The cardboard case 26 is erected prior to insertion of the inner container 10, and, following insertion of the inner container 10, provision is made for connecting the inner container wall or walls 12–18 to the outer case wall or walls 28, 30, 32, 34. Such connection may be by adhesive or sealing, or by means of projections 38 on the wall or walls of the inner container 10 engaging in apertures 40 in the wall or walls of the outer case 26. The package container may be made suitable for cooking of foodstuff contents by microwave energy. The outer case 10 provides a means for carrying advertising and the like.

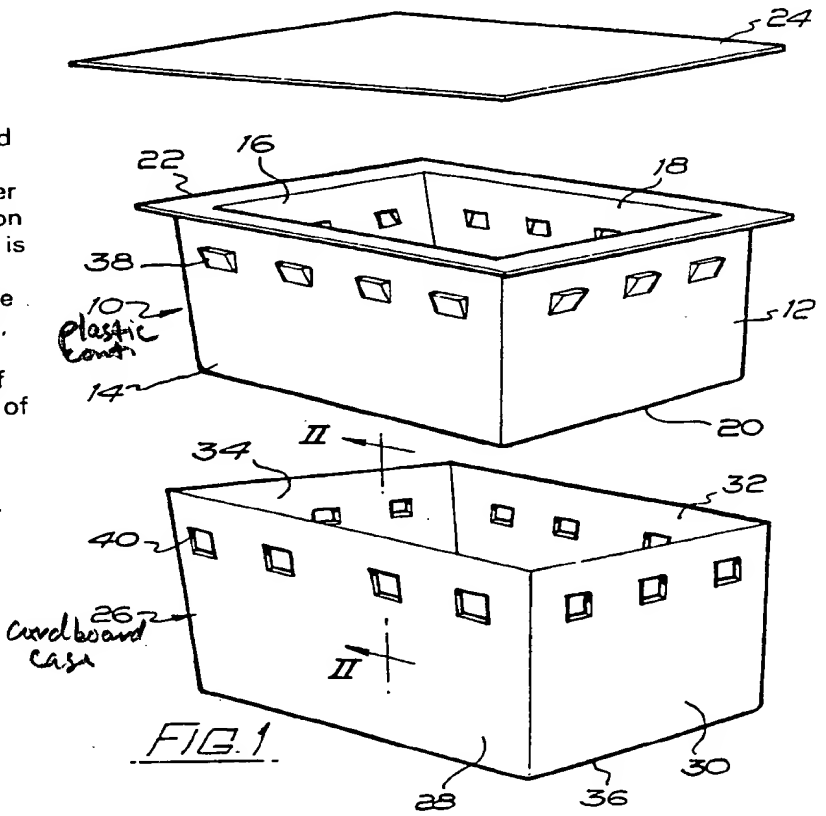


FIG.1

GB 2 194 514 A

The drawing(s) originally filed was/were informal and the print here reproduced is taken from a later filed formal copy.

INSDOCID: <GB 2194514A | >

1-1

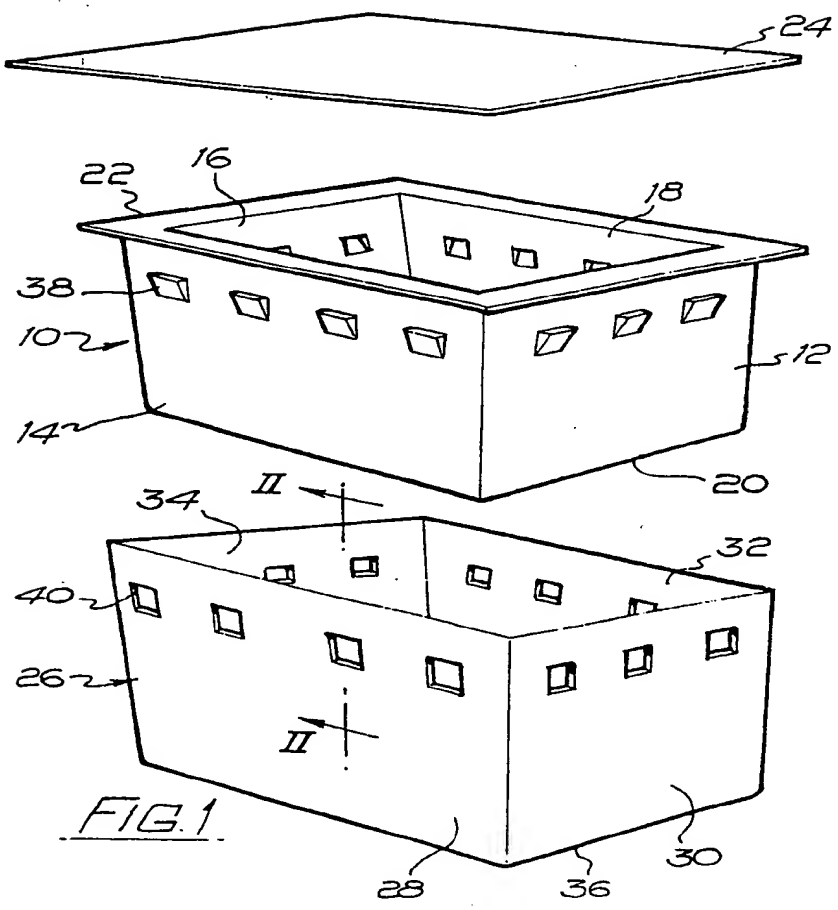


FIG. 1

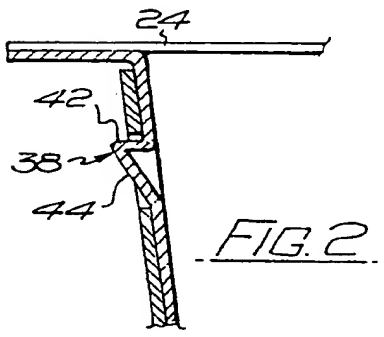
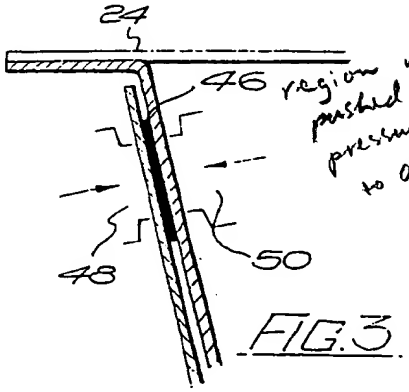


FIG. 2



region where wall is pushed together by pressure dies 48,50 to achieve effective adhesion

FIG. 3

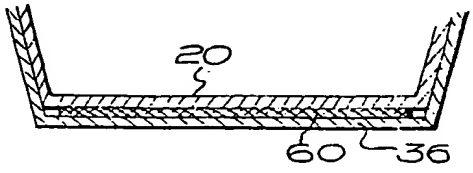


FIG. 4

SPECIFICATION

Improvements relating to composite packages

This invention relates to composite packages for containing goods or produce such as foodstuffs and liquids, the packages being composite in that they comprise an inner container of plastics material which may be formed by any suitable means and comprises a wall or walls, a base and an upper edge, and an outer case in which the inner container fits, said outer case being of a nature more suitable for carrying printed and other information than the plastics material inner container. Such containers are particularly adapted for holding food products whilst they are being cooked, either in a conventional oven or a microwave oven.

The present invention seeks to provide a means whereby the inner container and outer case can be connected in a simple and effective manner.

According to the invention, a composite container comprises an inner plastics material container and an outer case of paper or board material which is pre-erected and into which the inner container is fitted and then the outer case is connected to the plastics material container in the region of the plastics material container wall or walls.

In one example, the inner plastics material container is provided with an outwardly extending flange at its top edge, and the outer case extends over the wall or walls of the inner container up to the underside of the said flange, the connection between the inner container and outer case being by virtue of projections on the wall or walls of the inner container engaging in apertures in the outer case.

Alternatively, the outer case may be adhered or bonded to the inner container wall or walls, the bonding being by means of suitable adhesive or appropriate sealing.

The open top of the inner container may be sealed by means of a lid or the like.

Embodiments of the present invention will now be described, by way of example, with reference to the accompanying drawings, wherein:—

Figure 1 is an exploded perspective view of a composite container according to the invention;

Figure 2 is a sectional elevation taken on the line II–II in Fig. 1 of a portion of the assembled container;

Figure 3 is a view similar to Fig. 2 but showing an alternative method of connection; and

Figure 4 is a sectional elevation of the bases of the inner container and the outer case when fitted together.

Referring to the drawings, a plastic container 10 is in the form of a thermoformed tray provided with walls 12, 14, 16 and 18 which form a truncated tapering pyramid leading to a base 20. The top edge of the container is provided with a flange 22 and the container is closable by means of a flat lid 24 which is simply a rectangular sheet. In fact the lid 24 preferably is sealed to the flange 22 in order to hermetically seal the contents of the container 10, and to this end the lid 24 may be of a material which is similar to or compatible with the material of container 10 so that the two can be fused or welded together. Alternatively, the lid may comprise a sheet of a different material such as cardboard but which is coated on the side which is to be sealed to the flange as a compatible plastics material coating. In yet a further arrangement, adhesive may be applied between the lid 24 and the flange 22 in order to effect the seal. In application of the lid to the flange 22 pressure will be employed and in the case wherefusion sealing takesplace heat, utrasonic, radio frequency or other welding techniques may be used.

The container 10 is adapted to nest in an outer case 26 which is formed into the shape shown before assembly of the inner container and outer case and outer case 26 preferably will be of a material such as cardboard or the like which is more suitable for receiving printed matter than the container 10 so that when the container 10 sits in the outer case 26 there results a package comprising the inner container holding the package contents, and the outer case 26 carrying advertising material, container contents and so on.

The outer case 26 in this example is of a similar shape to the truncated pyramid of the container 10 so that neat nesting of a container 10 in the outer case 26 will take place, and to this end the outer case comprises walls 28, 30, 32 and 34 and a base 36.

When the container 10 is placed inside the outer case 26, the inner surfaces of the case walls lie close to the outer surfaces of the container wall and in this embodiment in order to connect walls 28 to 34 to the container walls 12 to 18, the container walls 12 to 18 are formed with outwardly extending projections 38. The projections 38 are at the same height in each wall from base 10 (but could be at different heights), and are spaced circumferentially of the container. The walls 28 to 34 of the case 26 have apertures 40 spaced and arranged in similar fashion to the projections 38 so that when the container 10 is inserted in the case 26, the projections 28 which are of the form shown in more detail in Fig. 2, spring into the holes 40 thereby clipping the outer case 26 to the container 10.

As shown in Fig. 2, each projection 38 comprises a top leg 42 which is substantially horizontal and a lower tapering leg 44. The tapering leg 44 acts as a ramp pushing the wall of the case 26 away from the container

10 as the container is inserted, whilst the top leg 42 forms a hook catchment engaging the upper edge of the associated aperture 40 thereby preventing the outer case from falling away from the container 10 when the two are clipped together.

In the embodiment of the invention shown in Fig. 3, instead of utilising projections 38 and apertures 40, the outer walls 28 to 34 of the outer case are simply anchored to the walls 12 to 18 of the inner container when the two are brought together. The anchoring is indicated in Fig. 3 by the solid line portion 46 which may represent adhesive or a region of sealing. If sealing or indeed welding takes place at the region 28, then the opposing surfaces of the container 10 and the outer case 26 in the region 46 must be of compatible material in order to ensure that the sealing or welding takes place.

Reference numerals 48 and 50 indicate a pair of pressure dies or the like which are used to push the respective walls together in the region 46 to achieve an effective adhesion between the walls. It will be appreciated that the lid 24 is applied in the case of the Fig. 3 embodiment after the outer case 26 is anchored to the inner container 10, but in the Figs. 1 and 2 embodiment the lids 24 can be applied to the inner container 10 before or after the container 10 is inserted in the outer case 26.

The inner tray may be of a thin flimsy material which is supported by the stiffness of the cardboard outer tray. It may only be necessary to seal the top of the container with a film, foil or the like lid when the container contains a material of high liquid content or contains readily flowable material.

Referring to Fig. 4, this is a sectional elevation showing the bases 10 and 36 respectively of the inner container and outer body 26, and it will be seen that a layer 60 of receptor or susceptor material has been placed between such bases. A susceptor material is a material which upon being subjected to microwave energy heats up rapidly and is used in packaging containers for example to cause browning or crisping of the surfaces of the foodstuff adjacent the receptor or susceptor material. The layer 36 may be a loose piece of receptor material, or it may be laminated to the base 10 or the base 36 or both. Such materials are described in some detail in British Patent Specification No. 2046060.

When the composite container is to be used for microwave cooking, the material for the inner container 10 must be selected so as to be suitable for microwave cooking. One such material which is suitable is polyethylene terephthalate (PET) but other materials can be used when the container is to be used in conventional ovens or indeed where the containers contain other than food products and do not require to be heated at all.

It will be understood that by virtue of the invention there is provided a simple and effective means of connecting an outer case to an inner container to provide a composite package.

CLAIMS

1. A composite container comprising an inner plastics material container and an outer case of paper or board material which is preerected and into which the inner container is fitted and then the outer case is connected to the plastics material container in the region of the plastics material container wall or walls.

2. A composite container according to Claim 1, wherein the inner plastics material container is provided with an outwardly extending flange at its top edge, and the outer case extends over the wall or walls of the inner container up to the underside of said flange, the connection between the inner container and outer case being by virtue of projections on the wall or walls of the inner container engaging in apertures in the outer case.

3. A composite container according to Claim 1, wherein the outer case is adhered or bonded to the inner container wall or walls, the adherance or bonding being by means of suitable adhesive or appropriate sealing.

4. A composite container according to any preceding claim wherein the top of the inner container is sealed by means of a lid or the like.

5. A composite container substantially as hereinbefore described with reference to the accompanying drawings.

Published 1988 at The Patent Office, State House, 66/71 High Holborn, London WC1R 4TP. Further copies may be obtained from The Patent Office, Sales Branch, St Mary Cray, Orpington, Kent BR5 3RD. Printed by Burgess & Son (Abingdon) Ltd. Con. 1/87.